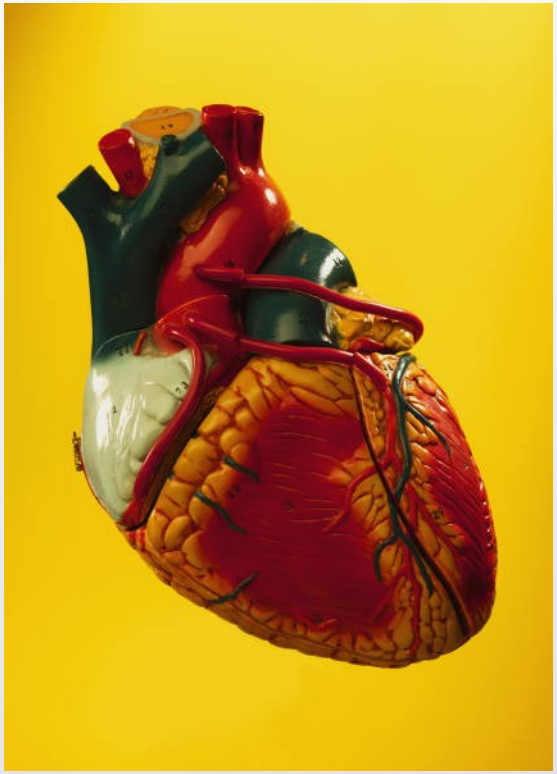
Coronary Bypass Surgery Clinical Pathways



Patient: **Clinical Pathway**: Elective Coronary Artery Bypass Graft (CABG) DRG: Expected LOS: **Allergies:**		Staff CT Surgeon: PCM:	Staff Cardiologist:
Level of Care→	Pre Operative	Pre Op->OR	OR->Extubation
Location→	CT Clinic/ SSC	SSC/ OR	ICU-W
Consults	☐CATH conference: film/cath results available ☐SWS for complicated DC needs ☐PULMONARY CLINIC ☐ PFTs on selected patients ☐ABGs ☐DENTAL consult for valve pts ☐NUTRITION CARE for preop assessment ☐Consider autologous blood **CONSULTS COMPLETED PRIOR TO SURGERY DATE**	☐Placed on VSI list **Valve patients**: TEE	
Tests	☐LABS: CBC, CHEM-7, PT, PTT, ALK PHOS, SGOT BILI, UA ☐Chest Xray (with in 30 days of surgery) ☐EKG (within one week of surgery) ☐T&C X 2units RBCs **RESULTS AVAILABLE FOR PROVIDER REVIEW PRE OP**	☐Labs per Cardio-Thoracic OR protocol	☐STAT labs per protocol ☐STAT Chest Xray, EKG ☐HCT q. 6 hrs and after PRBC transfusion ☐K+ q. 4 hrs X 3 and after PRBC transfusion ☐STAT serum K+ at least q. 1 hr if urine output >400cc / hr ☐ABG as needed ☐Diabetics: STAT Accucheck repeat q. 4 & 8 hrs then q. 8 hrs **LABS, EKG, XRAYS WITHIN EXPECTED LIMITS** **DIABETICS: Glucose controlled**
Assessment	☐Nursing-- DA 3888 History and Assessment ☐Cardiac risk factors with appropriate referrals (smoking cessation, nutrition) ☐Physician--History and Physical ☐Advance Directives inquiry ☐Surgical consent signed/witnessed ☐Anesthesia—Pre-anesthetic evaluation ☐Pre-surgical multidisciplinary patient education **ASSESSMENTS COMPLETED PRE-OP** **PATIENT/FAMILY VERBALIZE MANAGEABLE ANXIETY CARDIAC SURGERY PRE OP CHECKLIST COMPLETED AND REVIEWED**	☐Physical assessment per intra-operative protocol	☐Hemodynamic monitoring: Swan Ganz, EKG, A-line ☐Temporary pacemaker available ☐VS q 15 min X 8, then q 1 hr ☐Cardiac output: ☐q ½ hr X 4, then ☐ q 1 hr X 6, then ☐ q 2 hr X 6, then ☐ PRN until SGC dc'd ☐Pulse oximetry continuous ☐Systems assessment q shift and PRN ☐Wound assessment **NORMAL THERMIC** **NO EVIDENCE EXCESSIVE BLEEDING** **HEMODYNAMICALLY STABLE** **ADEQUATE RESPIRATORY WEANING PERAMETERS**
Discharge Planning	☐Home care needs assessed: support system, home care provider home care plan ☐Identify Primary Care Physician- refer to Tricare Service Center for PCM selection **PATIENT/FAMILY PARTICIPATE IN DISCHARGE PLAN**	☐ICU and RT notified of pending patient transfer from OR **ADDITIONAL DISCHARGE PLANNING NEEDS IDENTIFIED**	☐SWS Discharge Planning screening

Level of Care→	Pre Operative	Pre Op->OR	OR->Extubation
Location→	CT Clinic/ SSC	SSC/ OR	ICU-W
Treatments	☐Hibiclens shower : ☐night prior to surgery ☐morning of surgery **PATIENT VERBALIZES ABILITY TO COMPLETE PRE-OPERATIVE SKIN PREP**	☐Weight recorded: ICU-W and 2S ☐I & O documented: ☐Cardiopulmonary Bypass fluids ☐Anesthesia totals ☐Surgical bra applied for female patients	☐Foley cath ☐Oral/gastric tube to low cont suction ☐Chest tube to 20 cm suction and care per protocol ☐I & O q. 1 hr- include urine, chest tubes ☐Initiate early extubation protocol ☐Endotracheal suction PRN ☐O_2 ☐Soft wrist restraints while pt is intubated per protocol ☐Dressing changes per protocol ☐Pacer wire care per protocol ☐Pacemaker standby ☐Observe for bleeding: CT output, wounds, lab values ☐Heat lamp/Bear Hugger to core temp 37^{0}C **MINIMAL CHEST TUBE OUTPUT SUCESSFULLY WEANED FROM VENT**
Medications	☐Continue patient's normal medications ☐Discontinue NSAIDS, ASA, Coumadin per order ☐Pre-operative medications per anesthesia orders **PATIENT VERBALIZES UNDERSTANDING OF MEDICATION INSTRUCTIONS**	☐Ancef 1 GM IVPB with patient to OR (if PCN allergy, substitute Vancomycin 1 GM IVPB) ☐For valve pts: Vancomycin 1 GM. IVPB with patient to OR ☐Pre-op meds per anesthesia orders ☐Anesthesia per Rapid Extubation protocol	☐D5NS @ 20cc/hr via cordis ☐Levophed 4mg/ 250cc D5W o/c ☐Nitroglycerin 50mg/ 250cc D5W o/c ☐Sodium Nitroprusside 50mg/250cc D5W o/c ☐Antibiotic IV per orders ☐Analgesia IV per orders ☐Pepcid 20mg IVPB q. 12 hrs ☐KCL replacement per orders ☐MgSO4 replacement per orders ☐Acetaminophen suppos. for T>38.4C ☐Plasmanate / Albumin/ Hespan for volume replacement and notify House Officer ☐Sedation per protocol ☐Auto transfusion per protocol **MAINTAIN HEMODYNAMIC STABILITY WITH MEDS AS NEEDED**
Diet/ Nutrition	☐Continue normal diet ☐NPO AFTER MIDNIGHT _____(date) **PATIENT VERBALIZES UNDERSTANDING OF DIET ORDERS**	☐NPO	☐NPO ☐Oral/gastric tube to low suction
Activity	☐Activity as tolerated /as ordered pre- op **PRE-OP ACTIVITY LEVEL DOCUMENTED**	☐Ambulatory → bedrest	☐Cardiac position until weaned for extubation **MEETS WEANING PROTOCOL**: ☐Hold head up x 5 seconds ☐Follow simple commands ☐ Move extremities x 4
Education	☐Advance Directive information provided ☐Pre-op teaching completed (Surgeon, nursing, Anesthesia, SSC) ☐Cardiac risk factors discussed ☐Explain patient calendar/ care pathway **PATIENT/ FAMILY PARTICIPATE IN IDENTIFYING LEARNING NEEDS**	☐Surgical consent signed and witnessed ☐Reinforce pre-op teaching ☐Initiate Patient Plan ☐Family OR updates prn per CT Nurse Specialist **PATIENT/HOME CARE PROVIDER VERBALIZE UNDERSTANDING OF POST PROCEDURE CARE PLAN**	☐Reinforce teaching ☐Review patient progress using Patient Plan

Level of Care→	Extubation	1 POD	2 POD	3 POD→ Discharge
Location→	ICU-W(→ 2S)	(2S)	2S	2S
Consults	☐ Remove from VSI list			
Tests	☐ CBC, Chem 10, a.m. after surgery ☐ PT, PTT if bleeding ☐ Chest Xray, EKG in a.m. and PRN ☐ Diabetics: STAT Accucheck q. 6 hrs until on diet **LABS, EKG, XRAYS WITHIN EXPECTED LIMITS DIABETICS :Glucose controlled**	☐ Chest Xray , EKG in a.m. X 1 ☐ Diabetics: Accucheck 30 min before meals and h.s. ☐ Coumadin patients: PT q. a.m. **LABS, EKG, XRAYS, WITHIN EXPECTED LIMITS DIABETICS : Glucose controlled**	☐ Chem 7 in am ☐ Chest Xray, EKG in a.m. and PRN ☐ Diabetics: Accucheck 30 min before meals and h.s. ☐ Coumadin patients: PT q. a.m. **LABS, EKG, XRAYS, WITHIN EXPECTED LIMITS DIABETICS : Glucose controlled**	☐ CBC, Chem 7 third day after transfer to 2S ☐ Diabetics: Accucheck 30 min before meals and h.s. ☐ Coumadin patients—PT q. a.m. **LABS, EKG, XRAYS, WITHIN EXPECTED LIMITS DIABETICS : Glucose controlled**
Assessment	☐ D/C all central lines ☐ VS q. 1 hour ☐ Cardiac monitoring ☐ Pulse oximetry continuous ☐ Systems assessment q. shift and PRN ☐ Pacer wire removal per protocol ☐ Wound assessment **HEMODYNAMICALLY STABLE MANAGEABLE PAIN/ DISCOMFORT**	☐ Cardiac/telemetry monitoring ☐ VS + pulse oximetry q. 4 hrs ☐ Systems assessment q. shift and PRN ☐ Wound assessment	☐ Telemetry monitoring ☐ VS + pulse oximetry q. 4 hrs ☐ Systems assessment q. shift and PRN ☐ Wound assessment	☐ Telemetry monitoring ☐ VS + pulse oximetry q. 4 hrs ☐ Systems assessment q. shift and PRN ☐ Wound assessment **HEMODYNAMICALLY STABLE NO DYSRYTHMIAS AFEBRILE + BM ADEQUATE COMFORT LEVEL WITH ORAL ANALGESIA ADEQUATE ANTICOAGULATION FOR VALVE PATIENTS WOUND CLEAN, DRY , INTACT**
Treatments	☐ Foley cath until 2200 eve of transfer ☐ Daily weight by 0500 ☐ I & O q. 1 hour ☐ CT – D/C as per MD orders ☐ Dressing changes per protocol ☐ Pacer wire removal / care per protocol ☐ Incentive spirometer supervised q. 1 hr while awake ☐ C & DB ☐ O_2 @ 4L/NP. Wean as tolerated to maintain SAO_2 > 90% ☐ Wound care per protocol **MAINTAINS SAO_2 >90% ON NASAL CANNULA NO EVIDENCE OF BLEEDING S/P PACER WIRE AND CHEST TUBE REMOVAL**	☐ Daily weight by 0500 ☐ Dressing changes per protocol ☐ Foley catheter removed at 2200 hrs ☐ Incentive spirometer q. 1 hr while awake ☐ C & DB ☐ O_2 @ 4L/NP. Wean as tolerated to maintain SAO2 > 90% ☐ Wound care per protocol **VOIDS QS**	☐ Daily weight by 0500 ☐ Shower daily after CT removed (cover pacer wires) ☐ D/C chest and leg dressing ☐ Paint incisions with Betadine q. day ☐ If wound is draining, continue dressing changes using sterile technique q shift and prn ☐ Replace Foley catheter if no void by 0600 hrs ☐ Incentive spirometer q. 1 hr while awake ☐ C & DB ☐ O_2 @ 4L/NP. Wean as tolerated to maintain SAO_2 > 90% ☐ Wound care per protocol	☐ Daily weight by 0500 ☐ Shower daily (cover pacer wires) ☐ Paint chest and leg incisions with Betadine q. day ☐ If wound is draining, continue dressing changes using sterile technique q. shift and PRN ☐ Incentive spirometer q. 1 hr while awake ☐ C & DB ☐ O_2 @ 4L/NP. Wean as tolerated to maintain SAO_2 > 90% ☐ Wound care per protocol **WEIGHT = PREOP LEVEL PATIENT/HOME CARE PROVIDER DEMONSTRATE APPROPRIATE WOUND CARE**

Level of Care→	Post Op Follow Up (5-10 days)	Post Op Follow Up (2-4 weeks)	Health Maintenance (ongoing)
Location→	Cardio Thoracic Clinic	Cardiology Clinic	Primary Care Manager
Consults	☐ Consider consult to Nutrition Clinic ☐ Make referral to outpatient Cardiac Rehab Program when appropriate	☐ Seen by MD who scheduled surgery	
Tests	☐ Labs as indicated ☐ Chest x-ray	☐ Echocardiogram-for valve patients ☐ Treadmill scheduled	☐ Periodic surveillance for:
Assessments	☐ Follow up phone consult by Cardio Thoracic Nurse Specialist 2-5 days post discharge ☐ Evaluate understanding of D/C instructions and medications ☐ Assess activity level ☐ Assess wound status and wound care		
Treatments	☐ Suture/staple removal if required		
Medications	☐ Review medications		
Diet/ Nutrition			☐ Periodic surveillance of Heart Healthy eating plan
Activity	☐ Evaluate activity tolerance ☐ Reinforce no driving X 6 wks post op		☐ Periodic surveillance of Heart Healthy activity level
Education	☐ Reinforce sternal precautions ☐ Review wound care ☐ Review medication instructions		
Discharge Planning	☐ Referred back to Cardiology Clinic	☐ Referred back to PCM for ongoing health promotion and follow up	